

an interlayer formed in a layer which is at least either the soft magnetic layer or the ferromagnetic layer, the interlayer having magnetism and having higher electrical resistance than the electrical resistance of at least a part of the layer in which the interlayer is formed, wherein one of the following conditions is satisfied:

- B1
- 1) the interlayer contains at least one element in a group consisting of manganese (Mn), chromium (Cr), nickel (Ni), copper (Cu), rhodium (Rh), iridium (Ir) and platinum (Pt),
 - 2) the magnetic transducer further comprises an inserted layer formed at least either between the interlayer and the nonmagnetic layer or on the side opposite to the nonmagnetic layer with respect to the interlayer, the inserted layer containing at least one element in a group consisting of manganese, chromium, nickel, copper, rhodium, iridium and platinum, or
 - 3) the magnetic transducer further comprises a thermal stabilization layer formed at least either between the interlayer and the nonmagnetic layer or on the side opposite to the nonmagnetic layer with respect to the interlayer.

B2

~~7-24~~. (Amended) A magnetic transducer according to claim ~~28~~, wherein the inserted layer is formed at least either between the interlayer and the nonmagnetic layer or on the side opposite to the nonmagnetic layer with respect to the interlayer, the inserted layer containing at least one element in a group consisting of manganese, chromium, nickel, copper, rhodium, iridium and platinum and a thickness of the inserted layer is more than 0.03 nm and less than 0.6 nm.

B3

~~8-47~~. (Amended) A thin film magnetic head having a magnetic transducer, a magnetic transducer comprising:

- a nonmagnetic layer having a pair of surfaces opposing each other;
- a soft magnetic layer formed on one surface of the nonmagnetic layer;

a ferromagnetic layer formed on the other surface of the nonmagnetic layer;

an antiferromagnetic layer formed on the ferromagnetic layer on the side opposite to the nonmagnetic layer;

an interlayer formed in a layer which is at least either the soft magnetic layer or the ferromagnetic layer, the interlayer having magnetism and having higher electrical resistance than the electrical resistance of at least a part of the layer in which the interlayer is formed, wherein one of the following conditions is satisfied:

- B3
- 1) the interlayer contains at least one element in a group consisting of manganese, chromium, nickel, copper, rhodium, iridium and platinum,
 - 2) the magnetic transducer further comprises an inserted layer formed at least either between the interlayer and the nonmagnetic layer or on the side opposite to the nonmagnetic layer with respect to the interlayer, the inserted layer containing at least one element in a group consisting of manganese, chromium, nickel, copper, rhodium, iridium and platinum, or
 - 3) the magnetic transducer further comprises a thermal stabilization layer formed at least either between the interlayer and the nonmagnetic layer or on the side opposite to the nonmagnetic layer with respect to the interlayer.

REMARKS

Claims 28-34, 47 and 51-55 are pending in this application. By this Supplemental Preliminary Amendment, claims 35-46 and 48-50 are cancelled without prejudice or disclaimer, and claims 28, 34 and 47 are amended. No new matter is added.

Additionally, as set forth in the Response to Restriction/Election of Species Requirement filed December 9, 2002, Applicants respectfully asserted that independent claims 1 and 21 are generic to all species I-IV. However, now Applicants respectfully assert that independent claims 28 and 47 are the generic claims to all species I-IV.